Monthly Report

PAR 249 31 Dec 68

25X1

25X1

Precision Enlarger Prototype (BPE) Operational SUBJECT: Improvements and Maintenance

TASK/PROBLEM

1. Provide photographic enlarger maintenance at the customer's Precision Enlarger (BPE) and three 10-20-40X facility for one Enlargers.*

DISCUSSION

- 2. Contractor personnel visited the customer's facility during the week of 9 December 1968. The purpose of the visit was to perform the one-month preventive maintenance check on the BPE, and the onemonth preventive maintenance check on three 10-20-40X Enlargers.* (See the five accompanying check lists indicating work performed.)
- 3. During the BPE maintenance check, the "X" coordinate display lamps were found inoperative. The problem was not resolved due to lack of time and the customer work schedule.
- 4. During the 10-20-40X enlarger maintenance checkout the following malfunctions were found:
 - a. S/N 101 requires a static eliminator power unit.
 - b. S/N 113 requires a static eliminator power unit.
 - c. S/N 119 had no malfunctions.
 - d. S/N 123 requires four lamps in the viewer.

The "Y" coordinate gear on S/N 123 was drilled and pinned, and minor adjustments were made on all 10-20-40X enlargers.

Declass Review by NGA.

^{*} Note that while the work scope of PAR 249 calls for servicing three 10-20-40X enlargers, contractor service personnel are actually servicing four 10-20-40X enlargers.

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PLANNED ACTIVITY

- 5. During the next visit to the customer's facility, scheduled for 7 January 1969, accomplish the following:
- a. Correct malfunctions noted in paragraphs 3 and 4 providing the customer has the necessary parts.
- b. Perform one-month preventive maintenance checks on the BPE and four 10-20-40X Enlargers.

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PREVENTIVE MAINTENANCE SCHEDULE CHECK LIST

V	item	Description		Item	Description
		Daily Interval			One-Month Interval
7	1	Check the four indicator lamps on the sub-control panel.		1	Wax the steel rails of the lens ramp and of the easel.
7	2.1	Check closed-negative-gate interlock.		2	Install new air filter in lamphouse.
7		Check interlock that causes vertical transport slow speed.		3	Clean the nylon brushes of the fluid removal system.
	2.3	Check interlock that disables negative transport after fluid injection.	4	. 4	Check all tubing and hoses for cracks and air leakage.
		Check operation of microswitch that functions when manual-film-movement knob is pushed in.		5	Check and, if necessary, clean the lenses of the condenser lens assemblies.
		Check the indicator lamps for the two attenuator banks of the easel photometer.			Six-Month Interval
1		Check the meter scale illuminator lamp of the easel photometer.	1		
1	3.3	Check the antifatigue lamp in photo- multiplier tube housing.	-	1.1	Make a photographic check on all six matching sets of objective and condenser lens assemblies.
		Clean the glass plates of the negative gate.		1.2	Be sure that film is tracking properly in both directions on the negative transport system.
		One-Week Interval		2	Check the timing belts of the film
7	1	Vacuum-clean the enlarger.			transport system, of the vertical drive system, and of the easel drive
	2	Check, and if necessary, clean the objective lenses and all glass filters.			assembly for wear.
7		Vacuum-clean the front surface of the easel.			10/12/68
7		Check the fiber optics for broken fibers.	Ch	ecked by:	Date 12/13/68 Lnanged 2/68

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PREVENTIVE MAINTENANCE SCHEDULE CHECK LIST

ONE-MONTH INTERVAL

PRECISION ENLARGER, 10-20-40X

Assigned To:		25X1
Date:	12/12/68	
Machine Serial No.		25X1

T.1	5		T.4 >-	Description
ltom	Description		ruem	Description
1	Film Transport		8	Vacuum Pump Assembly
1.1	Static Removal Unit	ς	8.1	Hoses and Couplings
1.2	Guide Roller Flanges	}	8.2	Pump
1.3	Air Knives	Z	8.3	Oil Level
1.4	Belts and Pulleys		9	Lamp House Assembly
1.5	Lubricate Bearings	1	9.1	Housing
2	Easel and Stencil Assembly	7	9.2	Filter (Photographic)
2.1	Easel		9.3	Light Leaks
2.2	Air Pressure System	1	9.4	Lamp House Blower
3	Illuminator		10	Immersion System
3.1	Glass	/	10.1	Ejectors
3.2	Lamps	~	10.2 .	Hoses and Couplings
4	Negative Gate Interlock	~	10.3	Blower
5	Lenses	1	10.4	Fluid Level
-6	Stripper Plate	~	11	Lamp House Control
7	Air Pressure System	/	12	Analyzer
7.1	Air Lines		13	Photo Check
7.2	Compressor Control	/	13.1	Resolution
_7. 3	Relief Valve	V	13.2	Uniformity
-				
7.4	Regulator	V	14	General Inspection
	Regulator Filter-Compressor	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	14	General Inspection Initials JB/CP
	1.1 1.2 1.3 1.4 1.5 2 2.1 2.2 3 3.1 3.2 4 5 7 7.1 7.2	1.1 Static Removal Unit 1.2 Guide Roller Flanges 1.3 Air Knives 1.4 Belts and Pulleys 1.5 Lubricate Bearings 2 Easel and Stencil Assembly 2.1 Easel 2.2 Air Pressure System 3 Tlluminator 3.1 Glass 3.2 Lamps 4 Negative Gate Interlock 5 Lenses 6 Stripper Plate 7 Air Pressure System 7.1 Air Lines 7.2 Compressor Control	1 Film Transport 1.1 Static Removal Unit 1.2 Guide Roller Flanges 1.3 Air Knives 1.4 Belts and Pulleys 1.5 Lubricate Bearings 2 Easel and Stencil Assembly 2.1 Easel 2.2 Air Pressure System 3 Tlluminator 3.1 Glass 3.2 Lamps 4 Negative Gate Interlock 5 Lenses 6 Stripper Plate 7 Air Pressure System 7.1 Air Lines 7.2 Compressor Control	1.1 Static Removal Unit \$ 8.1 1.2 Guide Roller Flanges \$ 8.2 1.3 Air Knives \$ 8.3 1.4 Belts and Pulleys 9 1.5 Lubricate Bearings 9.1 2 Easel and Stencil Assembly 9.2 2.1 Easel 9.3 2.2 Air Pressure System 9.4 3 Illuminator 10 3.1 Glass 10.1 3.2 Lamps 10.2 4 Negative Gate Interlock 10.3 5 Lenses 10.4 6 Stripper Plate 11 7 Air Pressure System 12 7.1 Air Lines 13 7.2 Compressor Control 13.1

REMARKS:

- 1. Dash pots filled with Dow 200 fluid.
- 2. Static eliminator power unit, Model A-2 needs replacement.
- 3. Guide roller flanges too tight and one flange reversed.

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PREVENTIVE MAINTENANCE SCHEDULE CHECK LIST

ONE-MONTH INTERVAL

PRECISION ENLARGER, 10-20-40X

Assigned To:		25X′
Date:	12/12/68	
Machine Serial No.		25X ²

Film Transport 8	1					
1.1 Static Removal Unit 1.2 Guide Roller Flanges 2.2 Pump 1.3 Air Knives 3.4 Rives 1.4 Belts and Pulleys 1.5 Lubricate Bearings 2 Easel and Stencil Assembly 2.1 Easel 2.2 Air Pressure System 3 Illuminator 3 Illuminator 4 Negative Gate Interlock 5 Lenses 6 Stripper Plate 7 Air Pressure System 7 Air Lines 7 Compressor Control 7 Regulator 7 Regulator 7 Filter-Compressor		Item	Description	~	Item	Description
1.2 Guide Roller Flanges 8.2 Pump		1	Film Transport		8	Vacuum Pump Assembly
1.3 Air Knives 8.3 Oil Level		1.1	Static Removal Unit	1	8.1	Hoses and Couplings
Lamp House Assembly 1.5 Lubricate Bearings 2 Easel and Stencil Assembly 2.1 Easel 2.2 Air Pressure System 3 Illuminator 10 Immersion System 3.1 Glass 10.1 Ejectors 3.2 Lamps 10.2 Hoses and Couplings 10.3 Blower 10.4 Fluid Level 10.5 Lenses 10.4 Fluid Level 10.7 Air Pressure System 11 Lamp House Control 12 Analyzer 13.1 Resolution 13.1 Resolution 13.1 Regulator 13.2 Uniformity 7.4 Regulator 7.5 Filter-Compressor		1.2	Guide Roller Flanges	7	8. 2	Pump
1.5 Lubricate Bearings 9.1 Housing	1	1.3	Air Knives	7	8.3	Oil Level
Easel and Stencil Assembly 9.2 Filter (Photographic) 2.1 Easel 9.3 Light Leaks 2.2 Air Pressure System 9.4 Lamp House Blower 3 Illuminator 10 Immersion System 3.1 Glass 10.1 Ejectors 3.2 Lamps 10.2 Hoses and Couplings 4 Negative Gate Interlock 10.3 Blower 5 Lenses 10.4 Fluid Level 6 Stripper Plate 11 Lamp House Control 7 Air Pressure System 12 Analyzer 7.1 Air Lines 13 Photo Check 7.2 Compressor Control 13.1 Resolution 7.3 Relief Valve 13.2 Uniformity 7.4 Regulator 14 General Inspection	1	1.4	Belts and Pulleys		9	Lamp House Assembly
2.1 Easel 9.3 Light Leaks 2.2 Air Pressure System 9.4 Lamp House Blower 3 Illuminator 10 Immersion System 3.1 Glass 10.1 Ejectors 3.2 Lamps 10.2 Hoses and Couplings 10.3 Blower 10.3 Blower 10.4 Fluid Level 10.5 Erisper Plate 11 Lamp House Control 7 Air Pressure System 12 Analyzer 7.1 Air Lines 13 Photo Check 7.2 Compressor Control 13.1 Resolution 7.3 Relief Valve 13.2 Uniformity 7.4 Regulator 14 General Inspection 7.5 Filter-Compressor	V	1.5	Lubricate Bearings	<i>i</i> ⁄	9.1	Housing
2.2 Air Pressure System 9.4 Lamp House Blower 3 Illuminator 10 Immersion System 3.1 Glass 10.1 Ejectors 3.2 Lamps 10.2 Hoses and Couplings 10.3 Blower 10.4 Fluid Level 10.3 Blower 10.4 Fluid Level 10.5 Eigent 11 Lamp House Control 12 Analyzer 12 Analyzer 7.1 Air Lines 13 Photo Check 7.2 Compressor Control 13.1 Resolution 7.3 Relief Valve 13.2 Uniformity 7.4 Regulator 14 General Inspection 7.5 Filter-Compressor		2	Easel and Stencil Assembly	1	9.2	Filter (Photographic)
3 Illuminator 10 Immersion System 3.1 Glass 10.1 Ejectors 3.2 Lamps 10.2 Hoses and Couplings 4 Negative Gate Interlock 10.3 Blower 5 Lenses 10.4 Fluid Level 6 Stripper Plate 11 Lamp House Control 7 Air Pressure System 12 Analyzer 7.1 Air Lines 13 Photo Check 7.2 Compressor Control 13.1 Resolution 7.3 Relief Valve 13.2 Uniformity 7.4 Regulator 14 General Inspection 7.5 Filter-Compressor	V	2.1	Easel	1	9.3	Light Leaks
3.1 Glass 10.1 Ejectors 3.2 Lamps 10.2 Hoses and Couplings 4 Negative Gate Interlock 10.3 Blower 5 Lenses 10.4 Fluid Level 6 Stripper Plate 11 Lamp House Control 7 Air Pressure System 12 Analyzer 7.1 Air Lines 13 Photo Check 7.2 Compressor Control 13.1 Resolution 7.3 Relief Valve 13.2 Uniformity 7.4 Regulator 14 General Inspection 7.5 Filter-Compressor	V	2,2	Air Pressure System	1	9.4	Lamp House Blower
3.2 Lamps 10.2 Hoses and Couplings 10.3 Blower 10.4 Fluid Level 10.4 Fluid Level 10.5 Lamp House Control 10.6 Stripper Plate 11 Lamp House Control 12 Analyzer 13 Photo Check 14 7.2 Compressor Control 15 13 Resolution 16 7.3 Relief Valve 17 14 General Inspection 17 7.5 Filter-Compressor		3	Illuminator		10	Immersion System
Negative Gate Interlock 10.2 Hoses and Couplings 10.2 Hoses and Couplings 10.3 Blower 10.4 Fluid Level Lamp House Control Air Pressure System 12 Analyzer 7.1 Air Lines 13 Photo Check 7.2 Compressor Control 13.1 Resolution 7.3 Relief Valve 13.2 Uniformity 7.4 Regulator 7.5 Filter-Compressor	V	3.1	Glass	1	10.1	Ejectors
Lenses 10.4 Fluid Level 6 Stripper Plate 11 Lamp House Control 7 Air Pressure System 12 Analyzer 7.1 Air Lines 13 Photo Check 7.2 Compressor Control 13.1 Resolution 7.3 Relief Valve 13.2 Uniformity 7.4 Regulator 14 General Inspection 7.5 Filter-Compressor	7	3.2	Lamps	V	10.2	Hoses and Couplings
Stripper Plate 7 Air Pressure System 12 Analyzer 7.1 Air Lines 13 Photo Check 7.2 Compressor Control 13.1 Resolution 7.3 Relief Valve 13.2 Uniformity 7.4 Regulator 7.5 Filter-Compressor	7	4	Negative Gate Interlock	V	10.3	Blower
7 Air Pressure System 12 Analyzer 7.1 Air Lines 13 Photo Check 7.2 Compressor Control 13.1 Resolution 7.3 Relief Valve 13.2 Uniformity 7.4 Regulator 14 General Inspection 7.5 Filter-Compressor	レ	5	Lenses	١	10.4	Fluid Level
7.1 Air Lines 7.2 Photo Check 7.2 Compressor Control 13.1 Resolution 7.3 Relief Valve 13.2 Uniformity 7.4 Regulator 7.5 Filter-Compressor	~	6	Stripper Plate	7	11	Lamp House Control
7.2 Compressor Control 13.1 Resolution 7.3 Relief Valve 13.2 Uniformity 7.4 Regulator 7.5 Filter-Compressor		7	Air Pressure System	~	12	Analyzer
7.3 Relief Valve 13.2 Uniformity 7.4 Regulator 14 General Inspection 7.5 Filter-Compressor	<u></u>	7.1	Air Lines	1	13	Photo Check
7.4 Regulator 14 General Inspection 7.5 Filter-Compressor	~	7.2	Compressor Control		13.1	Resolution
7.5 Filter-Compressor	V	_7. 3	Relief Valve		13.2	Uniformity
	V	7.4	Regulator	1	14	General Inspection
7.6 Drain Storage Tank Initials JB/CP	1	7•5	Filter-Compressor			1
	1	7.6	Drain Storage Tank			Initials JB/CP

REMARKS:

1. Right tension arm cable frayed.

Dash pots filled with Dow 200 fluid.
 Tension arms adjusted.

4. Felt pad on lamphouse (right side) needs replacement.

5. Static eliminator unit inoperable.



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PREVENTIVE MAINTENANCE SCHEDULE CHECK LIST

ONE-MONTH INTERVAL

PRECISION ENLARGER, 10-20-40X

Assigned To:	25X1
Date: 12/12/68	
Machine Serial No.	25X1

-	Item	Description	~	Item	Description
	1	Film Transport	-	8	Vacuum Pump Assembly
1	1.1	Static Removal Unit	\wedge	8.1	Hoses and Couplings
1	1.2	Guide Roller Flanges		8.2	Pump
V	1.3	Air Knives	7	8.3	Oil Level
V	1.4	Belts and Pulleys		9	Lamp House Assembly
1	1.5	Lubricate Bearings	V	9.1	Housing
_	2	Easel and Stencil Assembly	7	9.2	Filter (Photographic)
1	2.1	Easel	~	9.3	Light Leaks
V	2.2	Air Pressure System	~	9.4	Lamp House Blower
	3	Illuminator		10	Immersion System
1	3.1	Glass	1	10.1	Ejectors
V	3.2	Lamps	~	10.2	Hoses and Couplings
V	4	Negative Gate Interlock	~	10.3	Blower
ノ	5	Lenses	7	10.4	Fluid Level
~	6	Stripper Plate	/	11	Lamp House Control
	7	Air Pressure System	V	· 12	Analyzer
U	7.1	Air Lines		13	Photo Check
	7.2	Compressor Control		13.1	Resolution
/	_7. 3	Relief Valve	V	13.2	Uniformity
7	7.4	Regulator	V	14	General Inspection
V	7.5	Filter-Compressor			
V	7.6	Drain Storage Tank			Initials JB/CP

REMARKS:

1. Take-up supply spindle belt bad.

2. Dash pots filled with Dow 200 fluid.

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PREVENTIVE MAINTENANCE SCHEDULE CHECK LIST

ONE-MONTH INTERVAL

PRECISION ENLARGER, 10-20-40X

Assigned To:		25X1
Date:	12/12/68	
Machine Serial No.		25X1

			1		
1	Item	Description	~	Item	Description
	1	Film Transport		8	Vacuum Pump Assembly
1	1.1	Static Removal Unit	NA	8.1	Hoses and Couplings
V	1.2	Guide Roller Flanges	NA	8.2	Pump
V	1.3	Air Knives	NA	8.3	Oil Level
V	1.4	Belts and Pulleys		9	Lamp House Assembly
1	1.5	Lubricate Bearings	7	9.1	Housing
	2	Easel and Stencil Assembly	1	9.2	Filter (Photographic)
	2.1	Easel	~	9.3	Light Leaks
/	2.2	Air Pressure System	~	9.4	Lamp House Blower
	3	Illuminator		10	Immersion System
/	3.1	Glass		10.1	Ejectors
~	3.2	Lamps	/	10.2.	Hoses and Couplings
~	· 1 [†]	Negative Gate Interlock	V	10.3	Blower
V	5	Lenses	~	10.4	Fluid Level
V	6	Stripper Plate	J	11	Lamp House Control
	7	Air Pressure System	V	1 12	Analyzer
~	7.1	Air Lines	~	1 3	Photo Check
~	7.2	Compressor Control		13.1	Resolution
	_7. 3	Relief Valve	1	13.2	Uniformity
~	7.4	Regulator	V	14	General Inspection
	7.5	Filter-Compressor			. – 1
	7.6	Drain Storage Tank			Initials JB/CP
					•

REMARKS:

1. Illuminator needs four lamps.

Loop switch actuators adjusted.
 Tension arms adjusted.

4. Y Coordinate counter gear pinned.

5. Dash pots filled with Dow 200 fluid.